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Diversified firms from the emerging markets of Southeast Asia: do they really have a different behavior?

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ABSTRACT

Both product and international diversified firms play a significant role in the world economy. Therefore, assessing the relationship between diversification and performance has attracted a lot of attention for decades. However, the focus is on developed countries. In this study by using a comprehensive framework we have attempted to find if the theories, that have been built based on the diversification studies in advanced countries, are applicable to the firms in the emerging markets. Based on results, we conclude that some of the theories validated in advanced countries are applicable to firms in the emerging markets and some are not.

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1. Introduction

Both product and international diversified firms play a significant role in the world economy. Based on the Capital IQ data, product diversified firms in United States controlled more than US$ 32 trillion worth of assets in 2011 and they were active in three businesses on an average. The data show that product diversified firms have the same situation in both Europe and Asia-Pacific region. International diversified firms have a large share of worldwide production and the level of international diversification (ID) has increased for firms in developed and developing countries (UNCTAD., 2011). Therefore, assessing the relationship between diversification and performance has attracted a lot of attention for decades (Li, 2007). However, the focus of studies is on developed countries particularly U.S. and as researchers (e.g. Peng and Delios, 2006; Chang, 2007) have pointed out that there is no guarantee to find the same relationship between diversification and performance in developing countries such as emerging markets of Southeast Asia.

Recently, international diversified firms from emerging markets have attracted a lot of attention by scholars (Cuervo-Cazurra, 2012). These studies have given rise to the question about using theories from international diversified firms in advanced countries to explain international diversified firms' behavior in developing countries (DID) (Cuervo-Cazurra, 2012; Ramamurti, 2012). Some researchers (e.g. Dunning et al., 2008) believe that the subject of analysis of DID is cold and there is no need to find new theories to explain their behavior. In contrast, others (e.g. Guillen and GarcÃa-Canal, 2009) have mentioned that the subject is hot and as DIDs are the new type of ID firms and new theories are needed to explain their behavior. Diversification has two different dimensions (product and international) (Peng and Delios, 2006) and a large number of ID firms have followed product diversification (PD), but the researchers have just focused on one dimension of it. Scholars argue that to investigate how firms' strategies interact and impact on firms' performance both the dimensions must be assessed simultaneously (e.g. Delios and Beamish, 1999; Peng and Delios, 2006).

To assess the behavior of DIDs, Ramamurti (2012: 41) suggests that "…the real challenge is to discover which aspects of existing theory are universally valid, which aspects are not, and what to do about the latter". In this study we expand his suggestion to both the dimensions of diversification and design a framework that contains antecedents of ID and PD (industry profitability, firm size, boards' characteristics, and prior performance) by

integrating the structure-conduct-performance paradigm from Industrial Organization (IO), as well as agency theory, prospect theory and escape hypothesis. Then through a comprehensive framework which provides a holistic view about diversification, we assess whether the hypotheses derived by using the theories validated in the western markets are supported by the diversified firms in emerging markets of Southeast Asia. By knowing an answer, it is possible to find if the existing theories are applicable or if they need modification or if new theories are needed for diversified firms in emerging markets (Ramamurti, 2012).

The structure of the paper is as follows. First, we discuss about the research framework and its characteristics. Second, we develop the hypotheses used in this research. Third, the data and the variables tested in this research are explained. Fourth, we report and discuss the results. Finally, we conclude by recapitulating the significant outcomes of this paper.

2. Research framework

According to IO and strategic management literature, industry structure, firm size and diversification strategies have effects on a firm's performance. Besides, based on the IO, industry structure has an effect on a firm's diversification strategies. According to studies in strategic management and international business, another factor that has an effect on a firm's diversification strategies is firm size. Diversification maybe followed by firms due to their prior performance or existence of agency problems. Therefore, to see a bigger picture of diversification in this study, we have designed a framework which integrates the structure-conduct-performance paradigm from IO, as well as agency theory, prospect theory and escape hypothesis. Through this framework we have attempted to show the relationships between firm-size, industry, board of directors, diversification strategy and performance variables. Figure1 shows the theoretical framework used in this research.

The framework used in this study is unique for several reasons. First, by looking at the results of this study one can see the effects of all variables on both aspects of diversification and the effects of PD and ID on performance simultaneously (Peng and Delios, 2006). Therefore, the framework provides a holistic view about the diversification's antecedents and effects of diversification on films' performance. Second, our framework includes prior performance as one of the variables and this variable has not been used in most of the previous studies. Third, most of the studies have used industry performance and firm size as control variables. In our framework, in addition to the direct effects of these variables on the firm's performance, the effect of the variables on the level of diversification has been

assessed. Fourth, in our model we have assessed the effects of agency problems on PD and ID, simultaneously. Fifth, we have tested the existence of linear and curvilinear relationships between PD and performance as well as ID and performance.

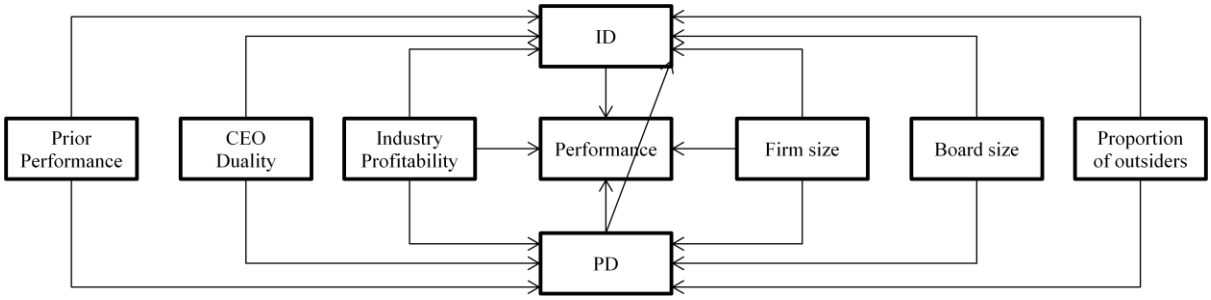


Figure 1
The Research Model

3. Hypotheses development

3.1. Industry profitability and diversification

Based on the industrial organization theory, industry profitability has an effect on the firms' strategies (Galbreath and Galvin, 2008) and indicates the attractiveness of industry structure (Park, 2002). An industry with high profitability has entry barriers such as high level of R&D and advertising expenditure and capital intensity (Park, 2002). In industries that have high R&D and advertising intensity, firms may create intangible assets and capabilities (Park, 2002), and these capabilities may lead firms to PD (Montgomery, 1994). As these intangible assets are transferable to related industries (Lecraw, 1984), firms in profitable industries may prefer to focus on their core businesses (Hopkins, 1991) and consequently may follow related PD (Chatterjee and Wernerfelt, 1991; Park, 2002). In contrast, based on the escape hypothesis in industries with low growth and profitability, firms prefer unrelated diversification to escape from their current unattractive industries and find new opportunities in other industries to improve their performance (Miller, 2004). Based on the above arguments, we posit the following hypothesis:

Hypothesis 1a There is a negative relationship between industry profitability and the level of product diversification.

Also, industry growth has an influence on the firms' level of ID. When a firm's industry growth declines in the home market, the firm seeks growth in international markets (Dunning and Lundan, 2008). Based on the large number of studies, industry growth and firms'

profitability are related and industries that have highest profitability often grow faster (Gorecki, 1975). Therefore, we posit the following hypothesis:

Hypothesis 1b There is a negative relationship between industry profitability and the level of international diversification.

Moreover, according to the IO literature, industry characteristics such as industry profitability determine firms' performance and the performance differences among firms that have different levels of PD and ID are more related to the industry in which the firms are located in rather than their diversification strategies (Ruigrok and Wagner, 2003). For instance, by comparing the average of return on equity for U.S. public firms active in twenty industries between 1990 and 2010, Montgomery (2013: 26) has mentioned that "annual average returns in the most profitable industries are well more than double those in median industries, and more than four or five times those at the bottom of distribution." Therefore, following previous studies (e.g. Schmalensee, 1985), it is hypothesized that:

Hypothesis 2 There is a positive relationship between industry profitability and firm performance.

3.2 Firm size and diversification

Firm size shows the firms competitive position within an industry and has been used as an indicator of a firm's economies of scale, scope and market power (Kirca et al., forthcoming). The relationship between firm size and PD is debatable. Some researchers (e.g. Chatterjee and Wernerfelt, 1991) state that there is a positive relationship between firm size and degree of PD, while others (e.g. Park, 2002) mention that firm size and unrelated PD are negatively related. Large firms are likely to increase organizational complexity due to structural elaboration and formalized system for planning, control and resource allocation (Quinn and Cameron, 1983). These structural elaboration and formalized systems may create stronger resistance to fundamental change in the structure and systems that may result from the unrelated PD (Wiersema and Bantel, 1992). Therefore, it is hypothesized that:

Hypothesis 3a There is a negative relationship between firm size and product diversification.

Also, firm size represents the availability and amount of resources (managements, financial, physical) under the managerial controls (Li and Qian, 2005). Small firms are more vulnerable to market competition as they are more resource constrained (Doukas and Lang, 2003). Moreover, they may reach fewer benefits by following ID due to possessing fewer

resources to leverage (Chang and Wang, 2007) and lack of financial resources to overcome ID barriers such as liability of foreignness (Zaheer, 1995). In contrast, larger firms have access to more resources to follow ID and some researchers (Kirca et al., forthcoming) have pointed out that there is a positive relationship between firm size and ID. Based on the above arguments, we hypothesize as follows:

Hypothesis 3b There is a positive relationship between firm size and international diversification.

Moreover, large firms are powerful market players and can limit or prevent later entrants from gaining access to suppliers, markets, customers and other scarce resources (Gaba et al., 2002). Their resources allow them to invest in innovation and pursue aggressive expansions (Cohen and Klepper, 1996). In addition, they have a stronger bargaining power to gain concession from host country institutions and governments (Brewer, 1993). Although large size may lead to increasing cost from managerial diseconomies and coordination cost that can reduce the benefits of diversification (Chang and Wang, 2007), the general view is that large firms are more profitable because they are more efficient than smaller firms and have higher market power (Lee, 2009). So, following the general hypothesis about the relationship between firm size and performance which states that there is a positive relationship between firm size and performance (Shergill and Sarkaria, 1999), it is hypothesized that:

Hypothesis 4 There is a positive relationship between firm size and performance.

3.3 Prior performance and diversification

Firms' prior performance has an effect on the firms' level of PD and firms with poor prior performance tend to diversify (Tanriverdi and Venkatraman, 2005). Park (2002) mentions that when a firm has a high profit and receives "positive feedback" from its previous acts, its resistance to strategic changes increases and becomes a less risk taker which is based on organizational learning literature, population ecology, and prospect theory. Therefore, related PD is in favor of firms that are profitable in their industries, as it is not a great strategic change and is less risky than unrelated PD. Also, a firm's profitability may lead to ID as only the successful firms have access to the appropriate resources to follow ID (Li, 2007). Based on the above arguments, we hypothesize as follows:

Hypothesis 5a There is a negative relationship between a firm's prior performance and product diversification.

Hypothesis 5b There is a positive relationship between a firm's prior performance and international diversification.

3.4 Board of directors and diversification

According to the agency theory, firms may follow diversification strategy due to agency problems (Hoskisson and Hitt, 1990). Managers and shareholders do not have the same interest and incentives over some issues such as a firm's optimal size (Shleifer and Vishny, 1997). In contrast to the shareholders who are interested in profit maximization, managers often want to maximize their firm size (Denis, 2001) as their compensation is positively related to the firm size (Jensen and Murphy, 1990), growth in size increases their power by increasing the resources under their control (Jensen, 1986), and managing a larger firm increases their prestige (Stulz, 1990). However, managers have other reasons than only empire building to follow diversification. In contrast to the shareholders who can diversify their risk through a portfolio of stocks, managers do not have access to the same opportunity. So, diversification strategy is attractive for managers as they can reduce their firm's total risk and consequently their employment risk through it. As the board have the legal authority to hire, fire, and compensate top management, it can monitor the actions of the managers (Denis, 2001; Fama and Jensen, 1983).

Based on the agency theory, CEO duality (a situation in which one person serves as a CEO and chairperson of the board of directors concurrently) can provide an environment for a CEO to show opportunistic behavior (Chahine and Tohmé, 2009). CEO duality increases the likelihood of dominating the board by the CEO as it breaks the balance of power between the CEO and the board (Muth and Donaldson, 1998). Therefore, it can reduce board's effectiveness in monitoring managerial activities (Boyd et al., 2005). Moreover, CEO duality increases the information asymmetry between CEO and the board. CEO has superior knowledge about the industry and the firm's internal conditions. When concurrently serving as a chairperson, he/she may not transfer critical information to the board members completely or may shape the information that the board reviews. Consequently, CEO duality can reduce board's ability to do its monitoring role effectively (Kim et al., 2009). Therefore, when a person holds CEO and chairperson of the board positions concurrently, he/she will have greater influence on the firm's corporate decision making (Adams et al., 2005). PD and

ID are among those corporate decisions (Tihanyi et al., 2009). Based on the above arguments, it is hypothesized that:

Hypothesis 6a There is a positive relationship between CEO duality and degree of the firm's product diversification.

Hypothesis 6b There is a positive relationship between CEO duality and degree of the firm's international diversification.

The board size could impact a firm's decision about diversification (Denis, 2001; Johnson et al., 1993) and the effectiveness of the board monitoring can be determined by it (Hermalin and Weisbach, 2003). Smaller boards for some reasons are more efficient. In contrast to the large boards that may experience communication and coordination problems (Van den Berghe and Levrau, 2004), the small boards are able to make decision faster and their discussions are more straightforward (Singh et al., 2004). In addition, they are more cohesive and may reach consensus faster (Van den Berghe and Levrau, 2004). Moreover, the likelihood of removing a manager with poor performance is higher when a firm has a small board (Hermalin and Weisbach, 2003). By decreasing the size of the board, the ability of manager to control the board decreases (Singh et al., 2004). Therefore, by increasing the efficiency of monitoring, small boards can hinder managers from following suboptimal strategies. Therefore, we hypothesize as follows:

Hypothesis 7a There is a positive relationship between board size and degree of the firm's product diversification.

Hypothesis 7b There is a positive relationship between board size and degree of the firm's international diversification.

Another indicator of board effectiveness in monitoring managers' actions is the proportion of outside directors (those not holding other position in the focal firm) and having a high proportion of outside directors can increase the effectiveness of the board (Ramaswamy et al., 2004). Since the inside directors are members of the top management team and have a close relationship with the CEO, they have a little incentive to remove or challenge CEO (Johnson et al., 1996). On the contrary, outside directors are independent from CEO (Dalton et al., 1998), so the probability of CEO dominating the board decreases by increasing the proportion of outside directors (Chen et al., 2009). Also, outside directors have large incentives to monitor CEO's actions. As Fama and Jensen (1983: 315) mentioned, the

value of outside directors' "…human capital depends primarily on their performance as internal decision managers in other organizations. They use their directorships to signal to internal and external markets for decision agents that (1) they are decision experts, (2) they understand the importance of diffusion and separate decision control, and (3) they can work with such decision control systems". Therefore, outsider dominated boards can monitor CEO's actions better, and can prevent managers from following shareholders' value destroying actions such as following diversification strategies (Hermalin and Weisbach, 2003). Based on the above arguments, we posit the following hypotheses:

Hypothesis 8a There is a negative relationship between proportion of outsiders and degree of the firm's product diversification.

Hypothesis 8b There is a negative relationship between proportion of outsiders and degree of the firm's international diversification.

3.5 Product and International diversifications

The association between PD and ID is ambiguous. Although some studies (Wiersema and Bowen, 2008; Sambharya, 1995) report negative relationship between PD and ID, Denis, Denis, and Yost (2002) state that the relationship is positive. The association between PD and ID might be negative for several reasons. First, firms may not have sufficient resources to follow both diversification strategies (Wiersema and Bowen, 2008). Second, high levels of PD needs high level of managerial control and coordination, and managers may pay less attention to ID as they are busy with PD (Wiersema and Bowen, 2008). Third, focusing on the firm's core business can enhance the firm's competitiveness in the global markets (Denis et al., 2002). Finally, both the diversification strategies are risky; therefore, the number of firms that take these risks together is not high (Sambharya, 1995). So, it is hypothesized that:

Hypothesis 9 There is a negative relationship between product diversification and international diversification.

3.6 Diversification and performance

A. PD and performance

Assessing the relationship between PD and performance has attracted a lot of attention for decades (e.g. Wan et al., 2011). However, the results of studies are inconclusive. Some scholars have found that there is no significant relationship between PD and performance

(e.g. Sambharya, 1995; Ravichandran et al., 2009) and some others have mentioned there is a positive relationship between PD and performance (e.g. Chang and Hong, 2000). The rationale for the positive relationship between PD and performance is that by following PD, firms can achieve market power through cross-subsidizing, predatory pricing, reciprocity in selling and buying and creating barriers to entry which is positively associated with the firm's performance (Lipczynski et al., 2005). Also, firms can achieve economies of scale and scope by following PD as they can use their current resources more efficiently (Geringer et al., 2000). Product diversified firms have access to the internal capital market which is much cheaper than external capital market. This allows managers to use their superior information to optimize the allocation of resources among firm's businesses (Klier, 2009). Furthermore, through PD firms can utilize the excess of their specific assets such as brand reputation and customer loyalty (Palich et al., 2000). By following PD, firms can reduce their overall risk through making a portfolio that contains businesses with less than perfectly correlated financial flows (Berger and Ofek, 1995). By reducing the firm's risk, the firm's debt capacity increases, and the firm can achieve tax advantages as the interest paid to the lender is tax deductable (Shleifer and Vishny, 1992).

From another aspect, according to some scholars (e.g. Palich et al., 2000) when the degree of PD of the firm increases, performance rises until the optimum point, then the association between PD and performance becomes negative. The theoretical rationale for this inverted U-shape relationship between PD and performance is that by following PD, firms have access to some benefits such as economies of scope and risk reduction which are not available to single business firms. So, following PD increases the firms' performance to the maximum point at which the firm has portfolio of related businesses then the performance decreases due to the increase of coordination and governance costs as well as reduction in the opportunities to achieve economies of scope (Palich et al., 2000).

Moreover, though some finance scholars state that diversified firms are traded at discount, and the relationship between degree of PD and performance is negative (e.g. Shyu and Chen, 2009), others (e.g. Villalonga, 2004) mention that this discount is related to the firm's prior performance and does not occur due to the PD. On the other hand, based on some studies (e.g. Stowe and Xing, 2006) this discount is significant, even after controlling for firm's prior performance and the relationship between PD and performance is negative. The supporting arguments for the negative relationship between PD and performance is that having access to the internal capital market can lead to the misallocation of resources among the firm's

businesses because of differences between bargaining power of mature profitable divisions' managers and high growth small divisions' (Ozbas and Scharfstein, 2010). Moreover, based on the agency theory managers have some personal incentives such as empire building, diversifying professional risk and increasing compensation to follow PD (Shyu and Chen, 2009). These misallocation of resources and agency problems lead to the overinvestment problems which cause diversification discount (Ozbas and Scharfstein, 2010; Stulz, 1990).

Based on the above arguments, it is hypothesized that:

Hypothesis 10 There is a relationship between product diversification and performance which can be positive, negative or inverted U-shape.

B. ID and performance

The results of the empirical studies about the ID-performance relationship are inconclusive. Some researchers (e.g. Tallman and Li, 1996) have found insignificant or weak relationship between the ID and performance while others have argued the relationship to be negative (e.g. Denis et al., 2002), positive (Delios and Beamish, 1999), inverted U-shaped (e.g. Li and Qian, 2005), and sigmoid (e.g. Contractor et al., 2003). Various theories have been mentioned by researchers to explain the different shapes of the relationship between ID and performance.

For the positive relationship, researchers have mentioned that firms which resort to ID have access to some advantages which are not available to domestic firms. For example, ID firms can internalize the intermediate market especially, for intangible assets when the product and factor markets are imperfect (Li, 2007). The main benefits of this internalization are achieving economies of scope (Ruigrok and Wagner, 2003) and scale as well as organizational flexibility (Hennart, 2007). ID firms can increase the stability of their cash flow by spreading their activities across the countries which are not economically integrated (Shapiro, 1978). Diversification can increase a firm's market power over its suppliers, distributors and customers through price discrimination and cross-subsidizing (Hitt et al., 2006). ID firms can reduce their tax by being active across countries (Denis et al., 2002). Furthermore, ID firms due to their flexible access to resources and the ability of production shifting can exercise arbitrage opportunities (Contractor et al., 2003). Finally, ID firms can scan rivals and markets better than domestic firms as their subsidiaries in different countries can share their knowledge and experiences (Contractor et al., 2003).

On the other hand, according to stages model of internationalization, during the first stage of ID the performance of the firm increases since the firm is diversified to the markets which are geographically and culturally close to the home market. However, by increase in the level of ID and moving to the geographic markets which are less familiar to the firm, the cost of coordinating the firm's operating units and cost of governance becomes higher than benefits of ID (Johanson and Vahlne, 1977; Contractor, 2012).

Researchers have used evolutionary theory of internationalization to explain the sigmoid relationship between ID and performance. According to the theory, during the early stage of ID a firm's performance decreases because of learning cost, liability of foreignness, and low level of economies of scope. Then by learning how to do business in the new markets, accessing low cost resources, achieving economies of scale and scope, and decreasing transactions cost through internalization, the performance increases at the middle stage of ID. However, after this stage the firms' performance decreases because of higher coordination and governance costs (Contractor et al., 2003; Cardinal et al., 2011).

Finally, supporting arguments about a negative relationship between ID and performance are from finance literature. According to the agency theory managers may have some other incentives to follow ID than creating value for shareholders (Doukas and Kan, 2006). Managers may follow ID to build an empire which provides them with the lower personal risk, and higher prestige, power, compensation and entrenchment (Hennart, 2011). Also, cross subsidization of poorly performing divisions by managers is mentioned as another reason for finding the negative relationship between ID and performance (Dastidar, 2008).

Based on the above mentioned paragraphs, it is hypothesized that:

Hypothesis 11 There is a relationship between international diversification and performance which can be positive, negative, inverted U-shape or sigmoid.

4. Methods

4.1 Sample

The sample of the study is drawn from the emerging markets of Southeast Asia. Large public firms that have more than US$ 50 million of revenue and are active in manufacturing sectors (primary standard classification codes of 20-39) have been chosen for the study. Based on the Capital IQ database, Southeast Asian emerging markets contains (Brunei, Cambodia, East Timor, Indonesia, Laos, Malaysia, Philippines, Thailand, and Vietnam). We

selected years 2007-2011 as the time period of the study. Similar to other studies about diversification strategy, data availability play a significant role in choosing the sample and the time period (Hoskisson et al., 2000; Dunning, 1973). After collecting the data, and eliminating the missing data, the final sample contained 169 firms (35 Indonesian, 91 Malaysian and 43 Thai firms).

4.2 Data and variables

Industry profitability was measured by average of industry ROA (Tanriverdi and Venkatraman, 2005) and was based on the firm's primary industry in the country which a firm is active in (Goerzen and Beamish, 2003; Delios and Beamish, 1999). The second variable, *firm-size*, was calculated as the natural logarithm of a firm's total asset by using Worldscope data (Thomas and Eden, 2004; Ruigrok and Wagner, 2003).

The three board variables, CEO duality, board size and proportion of outside directors, was measured as follows: *CEO duality* was a binary variable (coded as '1' if the CEO is also the chairperson and '0' if the CEO is not the chairperson). *Board size* was simply measured as the number of the board members. *The proportion of outside directors* was measured by dividing the total number of outside directors by the board size (Ramaswamy, Li, & Petitt, 2004). These data were collected from Capital IQ.

Diversification measure, PD, was measured by employing widely used entropy measure (Palepu, 1985) and was calculated as follows: $PD_e = \sum_{i=1}^{n} P_i \ln\left(\frac{1}{P_i}\right)$, where P_i is the share of the firm's total sales in industry *i* and *n* indicates the number of industries which the firm is active in. We used foreign sales to total sales (FSTS) as a measure of ID since it was the most used measure in the literature (Singh et al., 2010; Li, 2007). The Worldscope database was used to collect data for measuring ID[1].

We have measured *firms' performance* through accounting-based measure of performance. Among the accounting measures, return on assets (ROA) was selected. We did not choose return on equity (ROE) as it was more sensitive to the firm's capital structure. The ROA was measured for firms through dividing after tax return by total asset. Also, for the

[1] We have also used Herfindahl index Berry CH. (1971) Corporate Growth and Diversification. *Journal of Law and Economics* 14(2): 371-383. as an alternative measure of product diversification, and a composite measure of ID which contains foreign sales to total sales (FSTS), foreign asset to total asset (FATA) and number of foreign countries which a firm has subsidiary Thomas DE and Eden L. (2004) What is the Shape of the Multinationality-Performance Relationship? *Multinational Business Review* 12(1): 89-110. as a multidimensional measure of ID. However, since the composite measure and FSTS (r=.95, p<.01), and entropy and Herfindahl (r=.98, p<.01) were highly correlated, in this study, we have chosen FSTS and entropy as the model which contains these two variables explain the relationships better. Also these two measures are the most used measures of ID and PD in the literature.

firms' prior performance the time period of 2002-2006 and for firms' performance the time period of 2007-2011 was used. Data for calculating firm performance were obtained from Worldscope[2].

5. Results

Table 1 shows means, standard deviation and correlations. To test the hypothesis we have employed structural equation modeling with Amos 20. Amos provides values for Chi-square ($\chi 2$), GFI (Goodness-of-fit statistic), CFI (Comparative fit index), NFI (Normed-fit index), RMSEA (Root mean square error of approximation), SRMR (Standardized root mean square residual) as well as relative Chi-square.

Table 1
Descriptive statistics and Correlation Matrix

	Mean	Std. Dev.	1	2	3	4	5	6	7	8
1.Prior ROA	7.27	5.23								
2.ROA	7.14	5.58	.23**							
3.Industry ROA	5.97	3.18	0.1	.36**						
4. Firm size	5.14	1.11	0.11	0.09	.21**					
5. Entropy	0.33	0.39	-0.07	-0.03	0.11	.23**				
6. FSTS	0.18	0.24	0.04	-0.14	-.28**	0.02	-0.03			
7. CEO duality	0.1	0.3	-0.05	-0.1	-0.04	-.15*	-.16*	-0.13		
8. Board size	7.99	3.12	.16*	-0.11	-0.12	0.15	-0.11	-0.05	0.05	
9. Proportion of outsiders	0.71	0.21	-0.08	0.15	.35**	0.01	0.03	-.21**	-0.13	-.35**

n=169,*p<.05, **p<.01; Entropy is a measure of PD; FSTS is a measure of ID

Table 2 shows Chi-square statistics and goodness-of-fit indices. The results show that CFI, GFI and NFI are higher than 0.95, RMSEA and SRMR are less than 0.08, and the relative Chi-square is less than 2.00 (Schreiber et al., 2006). The fit statistics are within the prescribed levels.

Table 2
Chi-square statistics and goodness-of-fit indices for basic model

$\chi 2$ = 12.69; df=7; p=.08; GFI=.99; CFI=.99; RMSEA=.07; NFI=.99; SRMR=.026; Relative $\chi 2$= 1.81

$\chi 2$ – chi-square, df – degrees of freedom, GFI – goodness of fit index, RMSEA – root mean square error approximation, NFI – normed fit index, SRMR – standardized root mean residual

[2] We have also used sales growth and Tobin's Q as growth-based and market-based measures of performance. However, since the models for sales growth and Tobin's Q were not fitted, the results of the models which have ROA as performance variables were reported.

The path analysis shows some interesting results. First, the relationship between PD and industry profitability is not significant (β = 0.070, p-value = 0.330). However, there is a negative relationship between industry profitability and ID (β = -0.260, p-value = 0.000). Second, the hypothesis that tests the relationship between industry profitability and performance is supported (β = 0.340, p-value = 0.000). This implies that performance increases with the increase in industry profitability. Third, the relationship between firm size and PD is contrary to what we have hypothesized. Earlier studies have shown conflicting results. Taking cue from Wiersema and Bantel (1992) and Quinn and Cameron (1983), we hypothesized the relationship to be negative but the results indicate that level of PD increases with the size of the firm (β = 0.230, p-value = 0.000). However, the relationship between firm size and ID is insignificant (β = 0.080, p-value = 0.290). Fourth, the hypotheses that link prior performance with PD (β = -0.090, p-value = 0.210) and ID (β = 0.050, p-value = 0.470) are not supported. Fifth, the relationships between CEO duality and ID and PD are mixed. The effect of CEO duality on ID is negative (β = -0.150, p-value = 0.030) which is contrary to the hypothesized relationship. However, CEO duality has insignificant effect on PD (β = -0.130, p-value = 0.080). Sixth, the relationships between board size and ID and PD are mixed. The effect of board size on ID is negative (β = -0.170, p-value = 0.020) which is contrary to the hypothesized relationship. However, board size has insignificant effect on PD (β = -0.140, p-value = 0.090). Seventh, the relationship between proportion of outsiders in the board and ID is negative (β = -0.190, p-value = 0.020) indicating that the level of ID increases with less proportion of outsiders in the board. However, the effect of proportion of outsiders on PD is not significant (β = -0.070, p-value = 0.370). Eighth, the link between PD and ID is not supported (β = -0.060, p-value = 0.440) and the relationships of PD and ID with performance are not supported (PD: β = 0.020, p-value = 0.890; ID: β = -0.240, p-value = 0.580). Table 3 gives the standardized path estimates of coefficients of the model.

Using the theory-trimming techniques suggested by James, Mulaik, and Brett (1982), we have reanalyzed the model after removing insignificant hypothesized relationships from the first analysis. The result of the revised model and its goodness-of-fit statistics is shown in Table 4. Figure 2 depicts the modified framework with significant relationships.

Table 3
Standardized Path Estimates for the Model

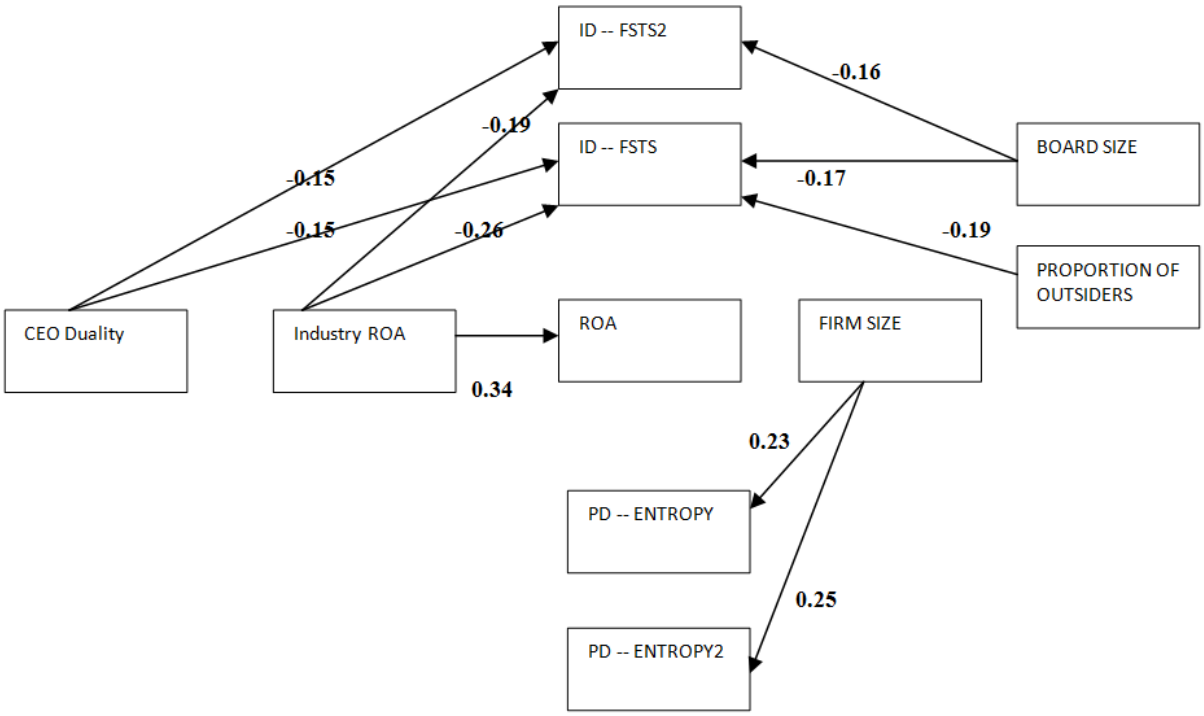
Variables		ƀ	Variables		ƀ
ENTROPY	BOARD_SIZE	-0.14	FSTS3	CEO_DUALITY	-0.14
ENTROPY	CEO_DUALITY	-0.13	FSTS3	PROPORTION_OF_OUTSIDERS	-0.1
ENTROPY	PROPORTION_OF_OUTSIDERS	-0.07	FSTS	ENTROPY	-0.06
ENTROPY	PRIOR ROA	-0.09	FSTS2	ENTROPY	-0.07
ENTROPY	INDUSTRY ROA	0.07	FSTS3	ENTROPY	-0.08
ENTROPY	FIRMSIZE	.23**	ENTROPY2	INDUSTRY ROA	0.06
FSTS	PRIOR ROA	0.05	FSTS	INDUSTRY ROA	-.26**
FSTS	CEO_DUALITY	-.15*	FSTS2	INDUSTRY ROA	-.19**
FSTS	BOARD_SIZE	-.17*	FSTS3	INDUSTRY ROA	-0.13
FSTS	PROPORTION_OF_OUTSIDERS	-.19*	FSTS	FIRMSIZE	0.08
FSTS2	PRIOR ROA	0.1	FSTS2	FIRMSIZE	0.01
FSTS2	BOARD_SIZE	-.16*	FSTS3	FIRMSIZE	-0.02
FSTS2	CEO_DUALITY	-.15*	ENTROPY2	FIRMSIZE	.25**
FSTS2	PROPORTION_OF_OUTSIDERS	-0.13	ROA	INDUSTRY ROA	.34***
ENTROPY2	PRIOR ROA	-0.05	ROA	FIRMSIZE	0.05
ENTROPY2	BOARD_SIZE	-0.09	ROA	ENTROPY2	-0.1
ENTROPY2	CEO_DUALITY	-0.07	ROA	ENTROPY	0.02
ENTROPY2	PROPORTION_OF_OUTSIDERS	-0.03	ROA	FSTS3	-0.28
FSTS3	PRIOR ROA	0.13	ROA	FSTS2	0.47
FSTS3	BOARD_SIZE	-0.15	ROA	FSTS	-0.24

n=169,**p*<.05,***p*<.01,****p*<.001; Entropy and Entropy2 are measures of PD; FSTS and FSTS2 are measures of ID; FSTS – foreign sales to total sales, FSTS2 and ENTROPY2 are squared measures

Table 4
Chi-square statistics and goodness-of-fit indices for the model after trimming

$\chi2$=27.38; df=23; p=.24; GFI=.97; CFI=.99; RMSEA=.03; NFI=.97; SRMR=.05; Relative $\chi2$= 1.19

$\chi2$ – chi-square, df – degrees of freedom, GFI – goodness of fit index, RMSEA – root mean square error approximation, NFI – normed fit index, SRMR – standardized root mean residual



FSTS – foreign sales to total sales, ROA – return on assets, FSTS2 – squared FSTS, ENTROPY2 – squared ENTROPY

Figure 2

The final model (with significant relationships)

6. Discussion

The relationships in the framework of this study can be divided into two main categories. First, the relationships between variables and firms' performance, and second the relationships between variables with firms' level of diversification. Based on the results of the study, among industry profitability, firm size, PD and ID, only industry profitability has an effect on firms' performance. Finding a positive relationship between industry profitability and firms' performance and not finding the relationship between firm size and performance imply that even having a large size in an unattractive industry does not lead to increase in a firm's performance. So, we have found support for IO argument about the effect of industry structure on firms' performance. However, we have not found support for market power theory, resource based view, stages model of internationalization as well as evolutionary theory of international diversification. Not finding the relationship between diversification (PD and ID) and performance can be a support for Colak's (2010) statement. He mentions that there is no systematic relationship between diversification and performance because some of the firms made the right decision about it and some made wrong decision. However,

Sambharya (1995) has mentioned that PD and ID individually do not have effect on a firm's performance but their combination has a positive impact. To test the effect of the interaction, we have added the interaction term to the model but after doing that, the model was not fit. Moreover, we have found that there is no significant relationship between PD and ID. Therefore, firms do not look at PD and ID as complementary strategies; also they do not follow one of them in expense of the other.

Based on the prospect theory, diversification is in favor of firms that have poor prior performance as they are more risk takers. However, we have found that prior performance does not have an effect on PD and ID. From the escape hypothesis we know that firms that are active in low profitable industries may follow diversification to escape from their current industry. Also, it is possible for firms to follow ID to move to a country in which their industry still has a higher level of profitability based on the host country's industry life cycle. The results of the study show that there is no significant relationship between industry profitability and PD. However, we have found a negative relationship between industry profitability and ID which supports the escape hypothesis. This result implies that firms in industries with low profitability prefer to diversify internationally. One possible explanation is that home market for firms in industries with high profitability is not mature yet, so, they prefer to focus on their home market than going abroad, and those that are active in industries with low profitability have followed ID to escape from their current situation.

Another antecedent of PD and ID is firm size. The result of the study shows that there is no significant relationship between firm size and ID, but there is a positive relationship between firm size and PD. Finding this relationship between firm size and PD is in contrast to what we have hypothesized. However, the result is the same as findings of some previous studies (e.g. Gollop and Monahan, 1991; Utton, 1977). Gort (1962) has mentioned that this positive relationship between firm size and PD maybe because the average size of the single business firms is lower than product diversified firms. So, there is a need to assess the relationship between firm size and PD within product diversified firms. The result of correlation analysis shows that this positive relationship between firm size and PD also exists within product diversified firms (β =.230, p=.020). One possible explanation for this relationship has been stated by Gort (1962). He has mentioned that by increasing the size of a firm, its ability to raise large amount of investment funds can be enhanced and this can help firms diversify to the attractive industries that are capital intensive. On the other hand, the result of Aw and Batra (1998) study about Taiwanese firms shows that this positive

relationship between firm size and PD is just valid for exporting firms. Similar to their result we have found that there is a positive relationship between firm size and PD for ID firms (β =.280, p=.010) and insignificant relationship between firm size and PD for firms that have zero ID. One possible explanation is that ID firms tend to upgrade their technology and this upgrading provides them with an opportunity to employ the new technologies to produce different products in a profitable way (Aw and Batra, 1998).

Another reason for following diversification is the agency problem. Based on the agency theory, following diversification has some benefits for managers such as increasing their compensation and prestige and helping them to make an empire, and diversifying their employment risk (Denis, 2001; Jensen, 1986). However, the results show that there is no relationship between corporate governance variables and firms' level of PD. Based on the results of the study, the relationships between ID and CEO duality, board size and proportion of outside directors are negative. As the signs of the relationship between ID and CEO duality and board size are against what agency theory predicts and just the sign of the relationship between proportions of outside directors is similar to what the agency theory predicts, it is possible to state that ID has not been followed by firms because of agency problems. Firms by separating the role of CEO and chair person and having a small board have tried to enhance the process of ID, but presence of outside directors rationalized the decision making about ID. For firms active in unattractive industries in developing countries there is not much room for following ID. The experience, knowledge and monitoring of outside directors prevent firms to follow ID when it does not have a positive effect on a firm's performance.

Finally, although it is not in the framework of the study, we have assessed the relationship between firms' leverage and diversification to find that whether firms have followed diversification for risk reduction. The result shows that the relationship between PD and leverage is insignificant (β = 0.560, p = 0.470), but there is a negative relationship between leverage and ID (β = -0.195, p = 0.010). The main argument is that following ID will reduce the volatility of cash flows since ID are active in markets which are imperfectly correlated, and this leads to lower bankruptcy risk and higher leverage. However, same as previous studies we have found that there is a negative relationship between leverage and ID. A possible explanation is that, these firms as researchers (e.g. Reeb et al., 1998) mentioned face additional risk such as foreign exchange rate and political risk as well as imperfection in international capital and labor markets which exceed the possible benefits of ID for risk reduction and lead to lower leverage for ID firms.

Now we need to answer the main question of this paper which is about the applicability of the theories about diversification strategies validated in western markets for firms in the emerging markets of Southeast Asia. Based on the findings of this study, we can conclude that some of the theories are applicable and some of them are not. For instance, we have found that there is no significant relationship between PD and performance and between ID and performance. Therefore, we have not found support for market power theory, resource based view, stages model of internationalization as well as evolutionary theory of international diversification. However, we have found that the firm's profitability can be explained by their industry profitability which is based on the industrial organization theory. The result shows that one cannot explain the level of the firms' diversification by prospect and agency theories. On the other hand it is possible to explain the firms' level of ID by escape hypothesis. Also, we have found that there is a positive relationship between firm size and PD. However, as Chatterjee and Wernerfelt (1991) mentioned there are no rigorous theories about the relationship between firm size and firms' level of PD even for firms active in advanced countries. Based on the above arguments it is possible to state that the subject of the study about diversified firms in emerging markets is neither hot nor cold since some of the theories are applicable and some are not. However, to do further investigation about the subject we suggest conducting case studies about these countries' diversified firms in future. The results of these case studies can assist us to find a better understanding about the motives of diversification, and consequently may lead us to build a new theory or modify the current theories to explain the motives of PD and ID for firms in emerging markets more precisely.

7. Managerial Relevance

Improving firms' performance is the main reason for following diversification strategies (Glaum and Oesterle, 2007). However, the results show that what has an effect on firms' performance is the firms' industry profitability and not their diversification strategies. Therefore, as Montgomery (2013) mentioned the forces which shape industries' competitive landscape (power of suppliers, power of customers, barriers to entry and exit, rivalry among firms and availability of substitute products), and are not under the control of managers explain the firms' performance.

In spite of this, interestingly, we found that there is a negative relationship between industry profitability and ID, and insignificant relationship between industry profitability and PD. The results imply that managers of the firms which are active in industries with low level of

profitability prefer to follow ID instead of PD to improve their performance. However, firms which are active in unattractive industries in developing countries are almost active at the end of their industry's life cycle. Therefore, there are no many rooms for them to follow ID and improving their performance, since to achieve competitive and comparative advantages they need to find a country which is less developed than their country that also have necessary resources for production. In contrast, if managers of the firms in unattractive industries start to follow PD instead of ID and shift their firms' industries to attractive industries can increase their firms' performance.

8. Conclusions

In this study by using a comprehensive framework which provides a holistic view about diversification, we have attempted to find if the theories, that have been built based on the diversification studies in advanced countries, are applicable to the firms in the emerging markets of Southeast Asia. Researchers have mentioned that improving performance, agency problems, and risk reduction are motives to following PD and ID. However, based on the industrial organization the performance of the firm depends on the industry structure. We have found that among industry profitability, firm size, PD and ID, only industry profitability has an effect on firms' performance. Moreover, we have found that among prior performance, agency problems, industry profitability and firm size, industry profitability has a negative effect on ID and firm size has a positive effect on PD. We do not find evidence for following diversification (PD and ID) due to prior performance and agency problems. These results indicate that IO argument about the differences among firms' performance based on their industry profitability is still valid for firms in developing countries in Southeast Asia. Finally, based on the results of the study we can conclude that some of the theories validated in advanced countries are applicable to firms in Southeast Asia emerging markets and some are not.

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